

### [54] UNITARY KEY PANEL

[75] Inventors: Luis Villalobos, Santa Monica;  
Steven B. Hirsch, Beverly Hills;  
Steven G. Hauser, Tarzana; John Von  
Buelow, Woodland Hills, all of Calif.

[73] Assignee: Secure Keyboards Limited, Costa  
Mesa, Calif.

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### [56] References Cited

#### U.S. PATENT DOCUMENTS

3,757,322	9/1973	Barkaan .....	340/712
3,890,480	6/1975	Berling .....	200/302.2
3,959,610	5/1976	Finnegan .....	200/5 A
4,066,850	1/1978	Heys .....	200/5 A
4,074,088	2/1978	Keough .....	200/5 A
4,091,610	5/1978	Sasaki .....	200/DIG. 2
4,096,935	6/1978	Hanakata .....	340/365 R
4,233,522	11/1980	Grummer .....	340/365 C
4,333,090	6/1982	Hirsch .....	340/365 R
4,336,529	6/1982	Buan .....	340/365 R

4,339,634	7/1982	Weber .....	200/5 A
4,352,968	10/1982	Pounds .....	200/302
4,421,966	12/1983	Pounds .....	200/5 A
4,460,810	7/1984	Fukukura .....	200/5 A

Primary Examiner—John W. Caldwell, Sr.

Assistant Examiner—Tyrone Queen

Attorney, Agent, or Firm—Poms, Smith, Lande & Rose

### [57] ABSTRACT

An environmentally protected keyboard display and input device is provided which may be utilized in conjunction with a variety of digital control systems such as automated bank tellers or building security systems. The keyboard display and input device includes a unitary, transparent flexible keyboard having thickened portions forming keys. The keyboard forms an environmental seal including a peripheral gasket to protect an underlying, transparent, pressure sensitive switching assembly, which, in turn, overlies a corresponding visual display of alphanumeric characters which indicate the significance of the individual pressure sensitive switches and corresponding keys overlying each character. Pins are formed on the underside of the flexible keyboard, below each key, to focus and concentrate pressure exerted on each key to the corresponding pressure sensitive switch below. An optical grid is provided to restrict the viewing of the alphanumeric characters to the user of the device, to prevent compromising the data input.

16 Claims, 9 Drawing Figures

